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Bubble Sort

Choose

difficulty:



Beginner



Intermediate



Advanced

1. Which of the following statements is true (assume ascending sort order)?

- ☐ a: After T iterations, atleast T of the smallest elements will be in their correct positions.
- ☐ b: After T iterations, atleast T random elements will be in their correct positions.
- ☐ c: After T iterations, a random number of elements will be in their correct positions.
- ☒ d: After T iterations, atleast T of the largest elements will be in their correct positions.

2. To sort an array in descending order, when will we swap two adjacent elements under consideration?

- ☒ a: When the i th element is lesser than the $(i + 1)$ th element.
- ☐ b: When the i th element is equal to the $(i + 1)$ th element.
- ☐ c: When the i th element is greater than the $(i + 1)$ th element.
- ☐ d: None of the above.

3. Consider the following array:

$A = [9, -1, -10, 9^*, 2]$

Note that the '*' is used to mark a distinction between the two 9's in order to keep track of their order while sorting. Which of the following represents the steps in sorting the above array (assume ascending order)?

- ☒ a: $[9, -1, -10, 9^*, 2] \rightarrow [-1, -10, 9, 2, 9^*] \rightarrow [-10, -1, 2, 9, 9^*] \rightarrow [-10, -1, 2, 9, 9^*] \rightarrow [-10, -1, 2, 9, 9^*]$
- ☐ b: $[9, -1, -10, 9^*, 2] \rightarrow [-1, -10, 9^*, 2, 9] \rightarrow [-10, -1, 2, 9, 9^*] \rightarrow [-10, -1, 2, 9^*, 9] \rightarrow [-10, -1, 2, 9, 9^*]$
- ☐ c: $[9, -1, -10, 9^*, 2] \rightarrow [-1, -10, 2, 9, 9^*] \rightarrow [-10, -1, 2, 9, 9^*] \rightarrow [-10, -1, 2, 9, 9^*] \rightarrow [-10, -1, 2, 9, 9^*]$
- ☐ d: $[9, -1, -10, 9^*, 2] \rightarrow [9, -1, 9^*, 2, -10] \rightarrow [9, 9^*, 2, -1, -10] \rightarrow [9, 9^*, 2, -1, -10] \rightarrow [9, 9^*, 2, -1, -10]$

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